

SETUP & DAILY USE INSTRUCTIONS

Complete Vacuum Degassing System

**VP425
VP4300**

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1. Introduction

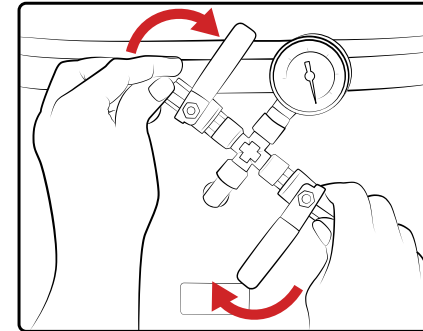
Thank you for choosing to buy our Easy Composites' Complete Vacuum Degassing System. The degassing chamber itself is expertly manufactured by Easy Composites Ltd in the UK from high quality materials and to our uniquely practical and effective design. The vacuum pumps are manufactured specifically for us and have proved themselves to be very reliable pumps for daily use.

If used and maintained correctly, both the pump and chamber will provide years of trouble free service. Please read the following instructions BEFORE USE to familiarise yourself with the setup and daily operation of the system.

2. First Time Use - Setup Instructions

When you first receive your Easy Composites' Complete Vacuum Degassing System, please follow these simple steps to assemble the system and prepare it for first use. Do NOT run the pump before you have followed these steps.

1. Screw in Valve Assembly



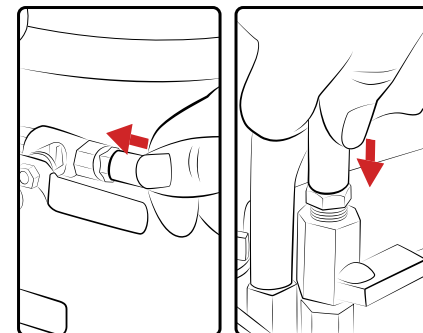
First, screw the complete valve assembly into the threaded hole on the front of the degassing chamber.

The assembly is already fitted with PTFE tape.

If you need to remove and replace the valve assembly in the future, replace the PTFE tape to ensure an airtight seal.

Rotate the assembly clockwise until it becomes tight, finishing with the gauge pointing vertically up.

2. Connect Hose to Pump



The system is supplied with a 1.5m length of 8mm ID black silicone vacuum hose.

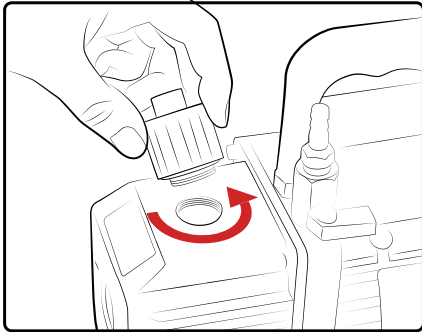
Push one end of the hose onto the hose-tail barb fitting on the vacuum pump and the other end onto the hose-tail barb fitting on the degassing chamber.

3. Fill Pump with Oil

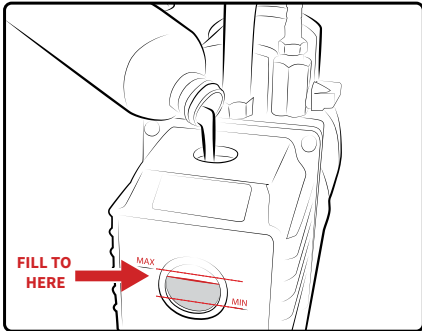
To avoid leakage during transport, our vacuum pumps are supplied without any vacuum oil in them. They need to be filled to the correct level using the supplied Vacuum Pump Oil before use.

Follow the instructions below according to the model of vacuum pump included with your degassing system.

Vacuum Pump VP425



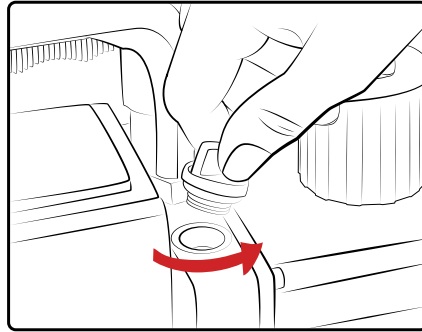
Unscrew the black plastic chimney from the top of the vacuum pump (on the end with the oil sight-gauge).



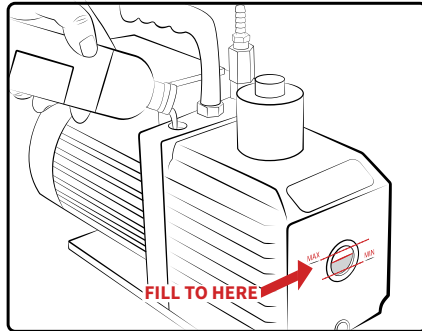
Fill the vacuum pump with oil until the oil level is halfway up the sight-gauge on the end of the pump.

Be aware that it might take a few moments for the oil to work its way down into the pump.

Vacuum Pump VP4300



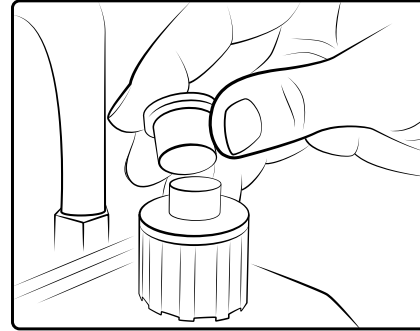
Unscrew the red oil filler cap near the base of the pump's carrying handle.



Fill the vacuum pump with oil until the oil level is halfway up the sight-gauge on the end of the pump. Be aware that it might take a few moments for the oil to work its way down into the pump.

If you overfill the pump, you can use the oil-drain screw towards the base of the pump to remove some oil.

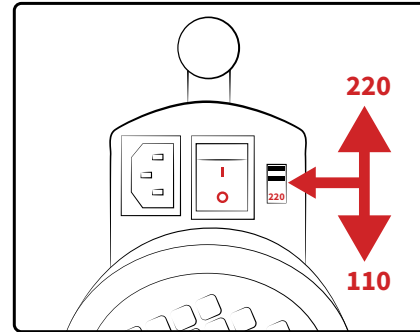
4. Remove Dust Cap



If you have not already done so, before switching the pump on, be sure to remove the rubber dust-cap from the exhaust chimney.

The rubber cap can be left off the pump in future or replaced for longer term storage.

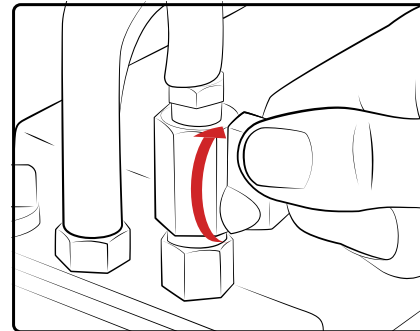
5. Set Voltage (If Required)



The VP425 and VP4300 have a switch-able power supply mode so that they can be used on both 230V mains supply (UK, Europe, Australasia, China etc.) and 110V (USA, Canada, Japan etc.).

When shipped, the pump will be set to 230v. If you will be using the pump in a country where the mains supply is 110v then please slide the voltage setting on the pump before switching it on.

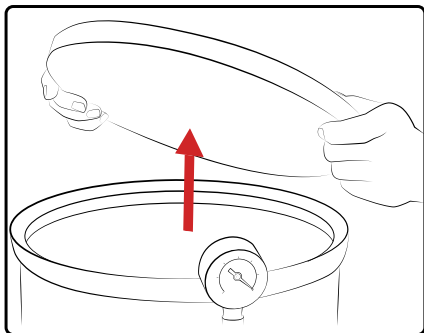
6. Open Valve on Pump



When using the pump with your degassing chamber, it is suggested to leave the valve on the pump permanently in the OPEN position and instead use the valve on the chamber itself.

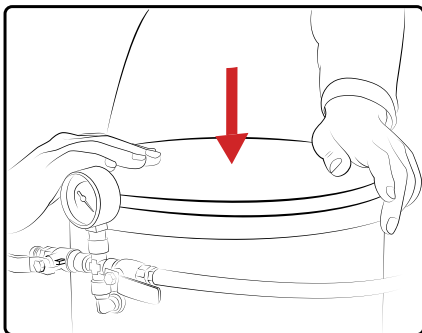
3. Daily Operation

1. Load Material



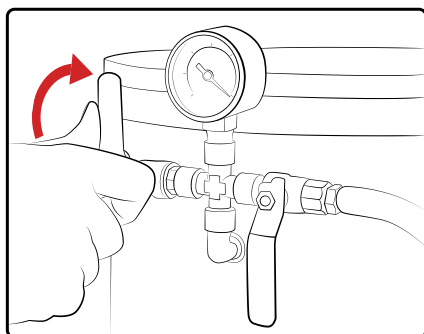
Start by removing the acrylic lid and loading your material (casting resin, RTV silicone rubber) into the degassing chamber.

2. Press-down Lid Firmly



Press down firmly on the lid to make sure it is well seated into the seal.

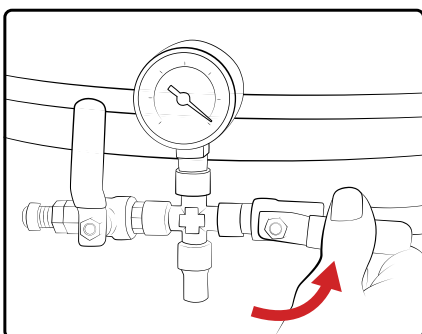
3. Check Inlet is Closed



Make sure the inlet valve (which has the brass filter fitted) is in the closed position, especially if you have just run a degassing operation.

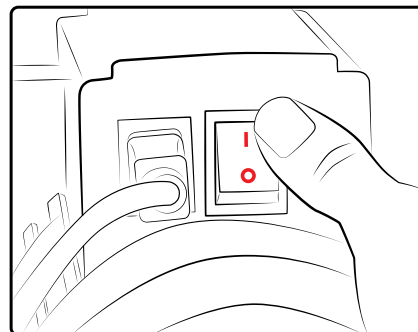
The valve is closed when this lever is facing upwards.

4. Open Vacuum Valve



Open the vacuum valve on the chamber which connects it to the vacuum pump by turning it to the horizontal position.

5. Switch Pump On



Turn the vacuum pump on using the power switch on the pump.

At this point you may need to press lightly on the lid to make the initial vacuum seal.

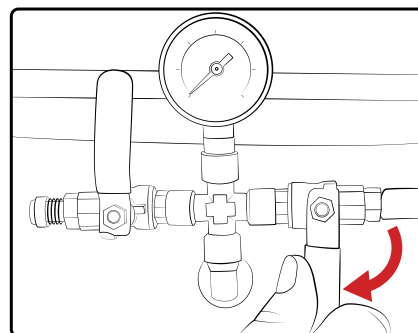
Degassing Times

As the pressure in the chamber, shown on the vacuum gauge, approaches -1 bar (30in Hg), any air trapped in the material will expand and start to bubble out of it.

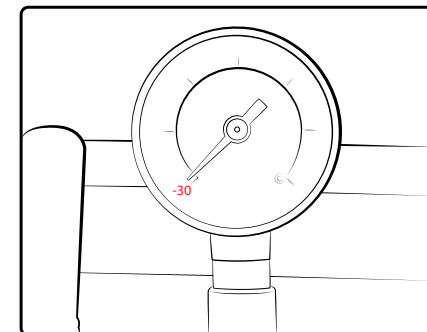
RTV silicones in particular will expand considerably whilst this happens. With silicones, there will come a point where the material collapses down again. This is a good indication that the degassing process is complete.

Once no air bubbles or only very occasional air bubbles are rising out of the material proceed with the following close and re-pressurise steps.

7. Close Vacuum Valve



6. Wait for Degassing



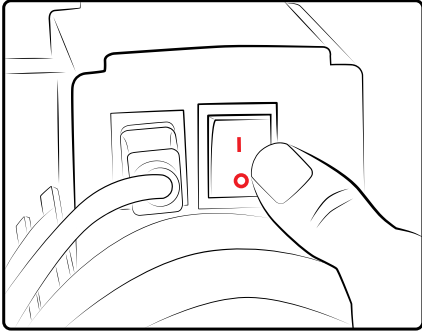
Wait whilst the pressure drops inside the vacuum chamber. Using the smaller VP425 pumps this will take around 4 minutes. Using the larger VP4300 pump this will take around 1 minute 30 seconds.

ALWAYS CLOSE THE VACUUM VALVE BEFORE SWITCHING OFF THE PUMP.

Close the vacuum valve that connects the chamber to the vacuum pump.

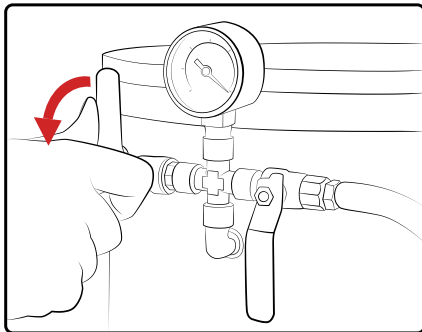
Failure to do this before switching off the vacuum pump will cause air and oil to be sucked back through the pump causing certain damage to the pump and contamination of the degassed material.

8. Switch off Pump



Once the vacuum valve has been firmly closed, the vacuum pump can be switched off. Never switch off the vacuum pump with the vacuum valve which connects it to the chamber is open (see notes on previous page).

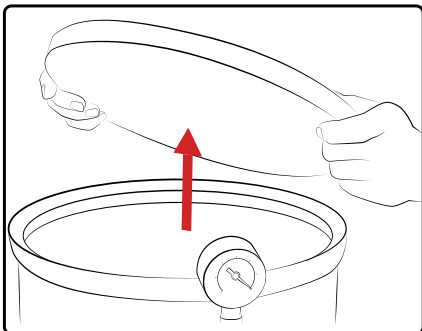
9. Open Inlet Valve



To let air back into the chamber, turn the re-pressuring (inlet) valve on the degassing chamber counter-clockwise into the horizontal position.

The inlet port is fitted with a 'soft' filter to restrict the rate at which air re-enters the chamber, helping to avoid disturbing materials inside or contaminating them with dust and other particles. The filter can be adjusted to change the amount of restriction, as required.

10. Remove Lid



Once air can no longer be heard passing through the filter the chamber will be back up to normal atmospheric pressure.

Once this has happened, lift the lid off the chamber to remove your degassed material.

4. Operating Conditions & Maintenance

The Easy Composites Complete Vacuum Degassing System is designed to provide years of reliable service however it is very important to ensure that you're using the system in an appropriate environment and maintaining it properly; failure to do so will shorten the life of the system and invalidate the warranty.

Please read and follow these important points on operating conditions and maintenance:

Do...

- Regularly check the oil level in the pump and top-up as necessary.
- If oil appears contaminated (cloudy), empty it from the pump and replace it with fresh vacuum pump oil.
- Use the system in a clean, dry environment and in an elevated position such as on a workbench or counter-top.
- Keep the system clean using a damp cloth and soapy water.
- Make sure all fittings are properly sealed. Use PTFE to seal and fittings you need to adjust or re-fit.

Don't...

- Never use the system on the floor.
- Never operate the pump in dusty conditions. Dust particles will be drawn into the pump and will contaminate the oil and accelerate wear.
- Don't use the system as a vacuum dryer. Moisture extracted from damp materials such as wood or plaster will emulsify the oil.
- Never use anything other than *High Vacuum - Pump Oil* to top-up your vacuum pump.
- Never use solvents to clean the pump or chamber, particularly the acrylic lid.

5. Warranty

Easy Composites Ltd warrants that this Complete Vacuum Degassing System will be free from defects in materials and workmanship for a period of 12 months from the date of purchase. Should a failure occur within this period, Easy Composites Ltd will repair or replace any defective part of the system on a like-for-like basis.

This limited warranty does not cover damage to the system caused by misuse, improper maintenance or use not in accordance with these instructions. In circumstances of very frequent use it is quite possible for the vanes on the vacuum pump to wear-out, indicated by reduced vacuum levels being achieved. This is normal wear-and-tear and not covered by the warranty. Replacement vanes can be supplied to renew the pump and restore the vacuum level.

Easy Composites Ltd is not liable for, and does not cover under warranty, any damages or losses of any kind whatsoever resulting from failure of this product. In the event of a claim, Easy Composites Ltd's sole obligation shall be to issue a refund or replacement of the product itself.

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